The management units noted above can also be viewed as sensitivity zones for cultural resources because, as has been noted previously in this section, the predictive zones mapped in Attachments I and IV are directly related to potential presence of significant sites. Also, the definitions of the management zones noted in Table 22 were developed based specifically on site significance. In general, the Management Units listed in Table 22 are ranked in terms of significance with Unit I having the highest potential for the most significant sites and Unit VI having the lowest.

An examination of Figure 43 and of the maps in Attachment V shows that most of the higher sensitivity zones are found adjacent to drainages and early road networks (Units I and II). Units with a more moderate significance (Units III-IV) are mainly located near secondary roads and lower order watercourses and the units with the lowest sensitivity (Units V and VI) are located in interior regions.

MANAGEMENT STRATEGIES AND RECOMMENDATIONS FOR FUTURE WORK

Before considering the possible uses of the data presented in this report, it is important to consider its limitations. Similarly, it is important to note inappropriate uses of the management data. As was noted in the introduction to this report, the data presented here should not be interpreted as a substitute for a cultural resources location and identification survey of any specific alignments within the project area that are chosen at a later date. Also, the assessments of potential National Register significance cannot be viewed as final

determinations of eligibility for any sites in the proposed project area. The only exception would be the few sites that are already listed on, or determined eligible for, the National Register. What the report does do is provide reliable and accurate estimates of expected site distributions in the study area and notes the potential significance of the expected sites. However, the delineation of potential site distributions should not be taken for final inventories of expected sites and alignment-specific inventories based on field survey will be a necessary part of future location/identification surveys.

With the limitations noted above in mind, it is possible to outline a number of possible applications of the management data presented in this report. These applications are listed below: 1) The management zones listed in Attachment V can be used as guides to the sections of the project area that will be potential "problems" during future phases of the project. Herein, "problems" refers to the existence of significant resources that will cost both time and money to mitigate potential adverse effects. Generally, these problem areas would include all areas classified as Zones I and II on the maps in Attachment V. 2) The data presented in this report can be used to develop plans and strategies to deal with the problem areas noted above. One simple strategy that could be developed would be to use the maps of management/sensitivity zones in Attachment V to delineate areas that could be avoided, if at all possible. In these areas, the maps of specific prehistoric site probability zones (Attachment I) and historic sites (Attachment IV) could be used

to avoid specific high probability, high significance zones. This level of site avoidance would be most applicable at the level of specific engineering and design, as opposed to general alignment selection. Avoidance of areas with high probabilities of significant sites is a preferred option both because the costs to the Delaware Department of Transportation for mitigation are minimized and because the impact on the cultural resource base is lessened.

If avoidance is not possible due to design or cost considerations, the data presented in this report can be used as a rough guide for potential fieldwork that might be required. In general, Phase I location/identification surveys will have to be done for most, if not all, of the proposed alignment areas. Also, Phase II excavations to determine the National Register eligibility of any prehistoric or historic sites discovered during the Phase I survey will be necessary. Thus, except in a few cases to be discussed later, once a final alignment is chosen, Phase I and II surveys will have to be carried out along its entire length. However, only certain sites will require Phase III data recovery excavations, or recordations in the case of standing structures. Such sites would be those determined eligible for the National Register of Historic Places and the present report will be useful both as a regional summary of known sites and research goals to help determine what sites are significant and as a guide to where significant sites may be located.

TABLE 23

LEVELS OF FIELD INVESTIGATIONS BY PREHISTORIC SITE TYPES

Site Types		Levels of Investigation: Location Ident.	Phase II	Data Recovery
Paleo-Indians/Early Archaic				
quarry	(U)	X		
	(P)	X		
quarry reduction	(U)	X	X	
	(P)	X	X	
quarry-related base camp	(U)	X	X	X
	(P)	X	X	X
base camp	(U)	X	X	X
	(P)	X	X	X
base camp maintenance station	(U)	X	X	X
	(P)	X	X	X
hunting site	(U)	X	X	X
	(P)	X		
Middle Archaic				
macro-band base camp	(U)	X	X	X
	(P)	X	X	
micro-band base camp	(U)	X	X	X
	(P)	X	X	
procurement site	(U)	X	X	X
	(P)	X	X	
Late Archaic - Middle Woodland				
macro-band base camp	(U)	X	X	X
	(P)	X	X	
micro-band base camp	(U)	X	X	X
	(P)	X	X	
procurement site	(U)	X	X	X
	(P)	X		
Late Woodland				
macro-band base camp	(U)	X	X	X
	(P)	X	X	
micro-band base camp	(U)	X	X	X
	(P)	X	X	
procurement site	(U)	X	X	X
	(P)	X	X	

KEY
(U)= unplowed
(P)= plowed

For prehistoric sites, Table 23 lists the varied functional site types for each time period and notes the levels of field investigations that would be appropriate given either undisturbed (unplowed) or disturbed (plowed) contexts. The various settlement models and maps listed in this report can be used as a guide to determine where these various site types are likely to occur and estimates of potential numbers of sites requiring Phase III data recovery excavations can be noted. A similar listing for historic sites is not possible because as yet the comparative data base for Delaware is poor and decisions of significance and need for further research will have to be made on a case-by-case basis. However, it can be noted that most of the predicted site locations dating from between 1630 and 1830 are likely locations for Phase III data recovery excavations. Also, it is difficult to imagine what types of potentially significant sites from later time periods would not be eligible for Phase III data recovery excavations or recordation. The final use of the plan will be to make specific recommendations about the research and field methods to be used in the Phase I location/identification surveys. These recommendations are listed below:

a) All standing structures within the proposed alignment should be field checked against the BAHP survey records and an inventory of sites for the alignment should be developed. The significance of these structures should be assessed on a case-by-case basis by a competent architectural historian.

b) All sites with standing structures (Appendix II, Attachment II) should be assessed for the potential of associated historical deposits and the archaeological deposits and the structures at a single site should be considered as a single cultural resource, not as two unrelated topics.

c) The documented historic site locations listed in Appendix III and mapped on Attachment III, which do not have associated standing structures, should be viewed as a special class, or stratum, of potential historic site locations that should be specifically checked for associated archaeological remains.

d) Areas denoted as having a high probability for historic sites dating from 1630-1830 should also be viewed as a special class of potential historic site locations and should be checked especially carefully for archaeological remains of that time period after the completion of in-depth archival research to identify documented settlement locations. Remaining areas within the alignment that need to be checked for historic sites can be surveyed as part of the general fieldwork that will look for both historic and prehistoric sites.

e) All areas within the alignment noted as high or medium probability zones for prehistoric sites should be carefully checked during the Phase I survey. Low probability areas should also be surveyed; however, it may not be necessary to completely survey all low probability zones. It is suggested here that a non-proportional stratified sample could be used in some project areas during the Phase I survey. For example, we can be fairly certain that many of the low probability areas on interior flats with no associated surface water and no poorly drained settings are unlikely to contain any sites. Even if they do contain sites, the sites are likely to be small lithic scatters that do not usually contain such significant data. In a few cases these sites have been studied (e.g., Limestone Hills Site Complex noted in Custer (1981) and the Archaic component of the Lancaster County Park site reported by Kinsey and Custer [1982]) and they have yielded few artifacts and little significant data. Also, these kinds of topographic settings are likely to be plowed and disturbed, further reducing the chance that they would produce significant data. Finally, these sites are so ubiquitous that the number that might be disturbed without recordation is a very small fraction of the resource base. With these arguments in mind, it is suggested here that prior to the beginning of the fieldwork portion of the Phase I survey, these areas described above be delineated in consultation with the DelDOT Archaeologist and engineers and the staff of the Delaware Bureau of Archaeology and Historic Preservation, and that only a controlled sample of them actually be surveyed in the Phase I research. This will probably cause substantial savings of time and money which may be better spent in the high significance areas along the major drainages.

f) The site data in Appendices I through III have been entered into a computerized data base (dBASE II) and can be cross-tabulated and sorted by individual variables or combinations of variables. These cross-tabulations can be used to assess the uniqueness of certain classes of cultural resources.

In conclusion, this report has documented the known and potential cultural resources of the project area and outlined management considerations for use in project planning. Hopefully, use of this information will help to minimize the project's impact on the cultural resources in the Beach Access Corridor in Sussex County, Delaware.